Hybrid sclerosing adenosis and basal cell hyperplasia of the prostate

Abstract

Hybrid sclerosing adenosis and basal cell hyperplasia of the prostate is a rare lesion. Here we report the seventh case of such lesions. Histological examination of the transurethral resection of the prostate of an 83-year-old Japanese man showed a small lesion consisted of sclerosing adenosis and basal cell hyperplasia, in addition to the diffuse glandular and fibromuscular hyperplasia. Immunohistochemically, many basal cells in sclerosing adenosis and basal cell hyperplasia areas showed a positive reaction for p63, cytokeratin 5, and D2-40. Additionally, many basal cells in the sclerosing adenosis area and some basal cells in the basal cell hyperplasia area were positive for S-100 protein and alpha-smooth muscle actin, which are myoepithelial cell markers. Finally, we suggest that hybrid sclerosing adenosis and basal cell hyperplasia may be actually a special form of hyperplastic lesion of all components of prostatic tissue, reflecting the unbalanced distribution of glandular, stromal (sclerosing adenosis), and basal cell hyperplasia with the differentiation toward myoepithelial cells predominantly occurring in a sclerosing adenosis area. Additionally, this case showed that D2-40 is a useful marker of basal cells.

Key words Sclerosing adenosis · Basal cell hyperplasia · Prostate · D2-40

Introduction

Sclerosing adenosis of the prostate, also previously called adenomatoid tumor, pseudoadenomatoid tumor, or fibroepithelial nodule, is a rare lesion characterized by the proliferation of variously sized glands in the cellular stroma. To date, 42 cases of sclerosing adenosis of the prostate have been reported. This entity is considered to be a nonneoplastic variant of adenosis of the prostate. Recently, we found that D2-40 is expressed as adenomatoid tumor (normal mesothelial cells) or gastrointestinal stromal tumor (normal Cajal interstitial cells). Additionally, we have recently found that D2-40 is a sensitive marker of prostatic basal cells. In this article, we report a case that combined features of sclerosing adenosis and basal cell hyperplasia with immunohistochemical application of D2-40 and discuss the histogenesis of this lesion.

Case report

Serum prostate-specific antigen of an 83-year-old Japanese man increased to 12.29 ng/ml, and he received follow-up. Additionally, he complained of ischuria, and subsequently underwent transurethral resection of the prostate. Specimens were obtained after approval by consent from this patient. Surgically resected prostatic tissues were fixed in 10% formalin and embedded in paraffin. Sections 3 μm thick were stained with hematoxylin and eosin. Additionally, immunohistochemical stain was performed using a Histofine Simple stain-PO (multi) kit (Nichirei, Tokyo, Japan). Antibodies against P504S (AMACR) (13H4, 1:100; DAKO, Glostrup, Denmark), cytokeratin 5 (XM26, 1:200; Novoceastra Laboratories, Newcastle, UK), p63 (4A4, 1:200; Lab Vision, Fremont, CA, USA) and D2-40 (D2-40, 1:50; DAKO), alpha-smooth muscle actin (ASMA) (1A4, 1:100; DAKO), and S-100 protein (polyclonal, 1:400; DAKO) were employed in the immunohistochemical study.
Fig. 1. Microscopic findings. a There is a small focus of a relatively well-circumscribed nodule composed of crowded glands associated with cellular stroma. White arrow, sclerosing adenosis; black arrow, basal cell hyperplasia. b Basal cell hyperplasia merging with sclerosing adenosis. White arrow, sclerosing adenosis; black arrows, basal cell hyperplasia. c Sclerosing adenosis area. The acini vary in size and shape, and lumens of some acini are compressed by dense stroma. Nucleoli of glandular cells are visible. Blue mucin is observed in the lumen of acini. d Sclerosing adenosis area. Eosinophilic secretion is focally seen in the glandular lumen. e Low-power view of basal cell hyperplasia. f High-power view of basal cell hyperplasia. a ×40; b, e ×100; c, d, f ×400